

REMARKS

In order to simplify prosecution and to place the application in *prima facie* condition for allowance, claims 1-111, 142-150, 169-184, and 217-225 have been cancelled without prejudice or disclaimer. The application now includes claims 112-141, 151-168, 185-216, and 226-243. Claims 112, 127, 151, 160, 185, 201, 226, and 235 have been amended in a manner suggested by the Examiner, and are therefore appropriate for entry and allowance at this time.

Claim Rejection under 35 USC §112, second paragraph

Claims 112-126, 151-159, 185-200 and 226-234 of the application stand rejected under 35 USC §112, second paragraph.

As suggested by the Examiner, independent claims 112, 151, 185, and 226 of the above group of claims have hereby been amended to recite that the variant versions of the polypeptides recited in those claims are variants which conserve the structure and function of the enzyme from which they are derived (either CMP-SA synthase or SAS). In addition, claim 112 has been amended to recite only “variant” rather than “functional variant” in order to make the language of this claim consistent within the claim, and with the language of related claims 151, 185, and 226.

Claim Rejection under 35 USC §112, first paragraph

Claims 1-48-70, 72-243 were rejected for lack of enablement under 35 U.S.C. 112, first paragraph.

In order to eliminate the level of homology as an issue in the case, and to gain allowance of the remaining claims, all claims reciting a level of homology have been cancelled without prejudice. The canceled claims include: 1-111, 142-150, 169-184, and 217-225.

Furthermore, claims 112, 127, 142, 151, 160, 185, 201, 226, and 235 have been amended to reiterate the function of the polynucleotides and polypeptides in the claims by reciting specific enzymatic activity of the encoded polypeptides.

Other Amendments

Applicant has hereby undertaken several other amendments to the claims, all of which are formal or cosmetic in nature:

- 1) correction of the use of "the" rather than "a" in claims 151, 185 and 226;
- 2) recitation of the full name of an enzyme the first time it is used in a claim, followed by the abbreviation of the enzyme in parentheses and use of the abbreviated form if the enzyme is referred to later in the claim, in claims 55, 57, 65, 127, 151, 160, 185, 201, 226 and 235;
- 3) replacement of the phrase "to produce" by the phrase "said cell producing" in to conform to standard English usage in claims 57, 65, 169, 185, 201, 217, 226, and 235; and
- 4) "reformatting" of claim 112 so that the elements of the claim are spatially arranged in a manner analogous to that of the other claims of the application.

Applicant submits that none of these amendments constitute new matter and respectfully requests entry of the amendments.

Formal Matters and Conclusion

In view of the foregoing, Applicant submits that all rejections have been successfully traversed and that claims 112-141, 151-168, 185-216, and 226-243 should be deemed new and unobvious over the prior art of record. The Examiner is respectfully requested to reconsider and pass the above application to issue at the earliest possible time.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

Please charge any underpayment or credit any overpayment of fees to attorney's deposit
account #50-2041 (Whitham, Curtis & Christofferson, P.C.)

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Michael E. Whitham', written over a horizontal line.

Michael E. Whitham
Reg. No. 32,635

Whitham, Curtis & Christofferson, PC
11491 Sunset Hills Road, Suite 340
Reston, VA 20190
703-787-9400